

VARIETY IS THE SPICE OF ROSES

Girija and M. S. Viraraghavan

A presentation held 2019 in China and Japan

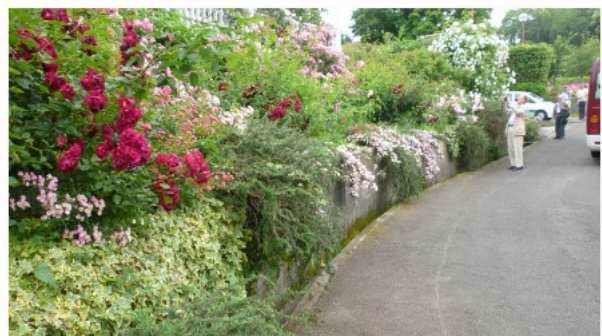


Variety is the spice of life... and of roses too. A rose garden is so much more attractive if it contains various kinds of roses. This is easily possible since the genus *Rosa* contains so much of variation – so many different kinds of roses that it is not difficult at all to make a very attractive garden utilizing this diversity. You may have noticed how people otherwise interested in gardening run down roses under the mistaken impression that they are temperamental, that the habit of growth is too stiff to fit in with other plants and that they are too much trouble to look after. Each of these assumptions is incorrect but we have to admit that we rose growers are partly responsible for not pointing out the landscaping possibilities with other plants in even the smallest rose garden. The rose may be the Queen of Flowers, but the Queen requires courtiers!

Traditional rose gardens emphasized the earlier accepted idea that roses should be grown in exclusive large sized rose beds, preferably rectangular or square shaped. To the non-rose person this is anathema. In the modern garden where space is limited, the garden lover likes to grow many different plants, including roses and we should fall in with this trend.



Sakura Heritage Rose Garden



Akao Garden

When you think of beautiful ways to combine companion plants with roses we should remind ourselves that we are sitting in one such garden – the Sakura Rose Garden itself, winner of the WFRS Award of Garden Excellence.

One more example is the Akao Garden, where we saw, on an earlier visit, how imaginatively rose diversity had been combined with the beauty of other plants. There were roses with bonsai, roses with those very beautiful bell flowers, platycodon, roses with so many other diverse herbaceous perennials and annuals. There are some disturbing reports that the maintenance of this beautifully landscaped garden has received a setback in recent times. All of us, Japanese rose and plant lovers, and others, should request the owners to set matters right, stressing the point that this garden is a national treasure and one which has won the Award of Garden Excellence from the WFRS.

Miniature rose, shrub rose, HT rose, Floribunda

What is this rose diversity I am talking about? If you think about it, it is indeed incredible that there are so many different rose plant forms - there are roses which are miniatures, there are roses which are shrubs, we have the solitary giant flowered Hybrid Teas, and the clusters of the floribundas, the charm of the standards, the beauty of pillar roses, the grace of climbing roses, and the simplicity of the single roses. Within each category there is so much of difference, in colour and shape of flowers, the period of bloom, the foliage, even the prickles and the fruit. And we have to take full advantage of this fascinating profusion of qualities.



Miniature – Magic Carrousel



Hybrid Tea - Anna Pavlova



Shrub Rose – Belinda's Dream



Floribunda - Cinco de Mayo



Standard Rose



Pillar Rose



Climbing Rose



Rose Arch
"Kanyakumari" (Viru)

I would like to stress on the variety of flower form, not just plant form, available in the rose family. We have most prominently the Hybrid Tea form, with which all are familiar. A surprising fact is that this H.T. form is the gift of the species, *R. gigantea* to the rose world. More on this later.

The next important class is what called the old rose form – the form of the roses which our grandmothers grew. The old rose form has significantly gained in popularity, thanks to the pioneering work of David Austin of English Roses fame - sadly he passed away recently. But from ancient times this form has been the hallmark of roses.



"Graham Thomas"



"Paul Neyron"

Old rose forms

Single roses

One other form is of course the single rose. As you know all wild roses have this form and we should appreciate the simple artistry of God's own creation. Often, to my chagrin, I hear people remark, that the single rose does not look like a rose at all. On the other hand as we progress in our aesthetic appreciation of roses we soon realize that the single rose is indeed a hallmark of the beauty of the rose.



"Rose Legend Akira Ogawa"
(Virus)



"Lanjique Rose"
(Viru)

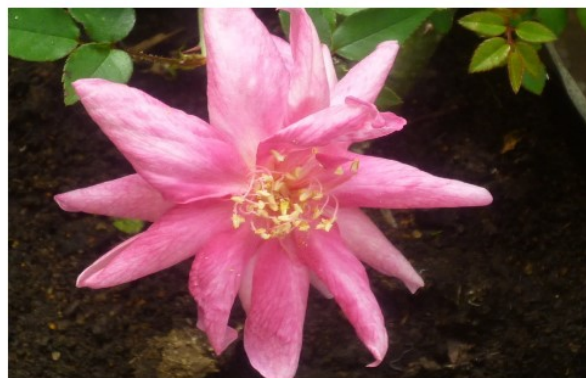
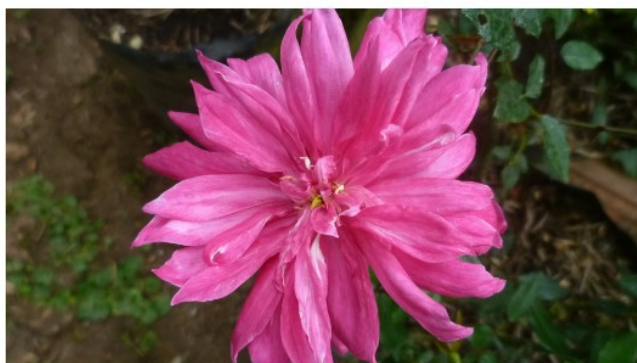


"Spot On "
(Viru)



Laevigata Rosea

There are many other forms - for example, we have roses with quilled petals, roses with green (vegetative) centres, and roses which resemble other flowers, for example, chrysanthemums. But I leave it to you rose lovers to seek out thesedifferent kinds of rose forms. The exercise will give you great pleasure.



Quilled Petals - Two of My Patio Tea Seedlings



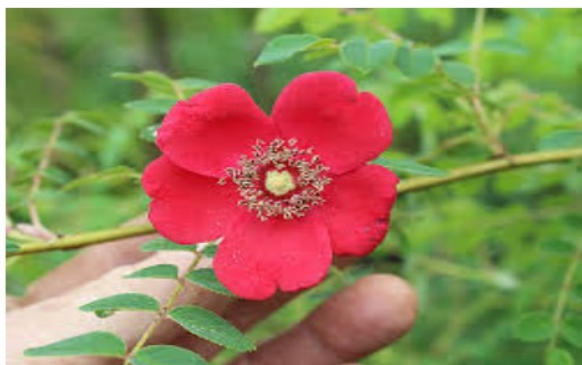
Madame Hardy - Green Centre



Ganges Nymph (Viru) - Quilled Petals & Green Centre

To my mind one of the most fascinating aspects of the rose is the extraordinary colour range unmatched perhaps in any other genus of ornamental plant, and of these the most romantic surely is the red rose, the symbol of love. Some of you may have heard of the great poem by Robert Burns, the Scottish poet: 'My love is like a red, red rose'.

Before we come to red roses, a few words on the pigments responsible for rose colours. Basically, there are two types of pigments in the rose family – the first group, all water soluble, are the anthocyanins, and the closely related flavonols, which account for a range of colours from shades of pink to red as well as white and cream. The other main group are the carotenoids, water insoluble, which are responsible for the shades of yellow to orange. Carotenoids are named after the colour of carrots. The introduction of carotenoids around 1910 ('Soleil d'Or') in the blood line of roses was the single major step which resulted in the dazzling rose colours of today.



Rosa moyesii



"Parole "



"Mr.Lincoln "



"Out of India " (Viru)

Red roses

Coming back to red roses, there is a breathtaking range available. We have roses in light red, magenta red, pure red, red with dark crayoning, which is the connoisseur's choice, and very dark almost black shades where there is a high concentration of pigments. I show you a representative group.



"Veterans Honor"



"Crimson Glory"



"Senegal"



"Louis XIV"



'Nigrette'



'Black Baccara'



Rosa foetida Persiana



"Soleil d' Or"



"Lemon Spice"



"King's Ransom"



"Ahimsa" / "Orient Gold"
(Viru)



"Apricot Nectar"



"Nefertiti"
(Viru)



"Vienna Charm"

Yellow/golden roses

The range of colours in golden roses is equally large. We have roses in pale yellow, dark yellow verging on gold, greenish yellow, apricot yellow, golden apricot, as well as the red and yellow bicolours - the range is endless. This spectacular array of golden colours is almost entirely due to the breakthrough achieved by the great French hybridiser, Pernet Ducher, who, after years of effort, succeeded in crossing the golden rose of Persia, *R. foetida persiana* with modern roses to produce the first real yellow rose, 'Soleil d'Or', owing its colour to carotenoid pigment, as I already mentioned. Along with the earlier range of yellow colours *R. foetida*, in its bicolour form, led to the dazzling bicolour Hybrid Teas in red reverse yellow and thereafter to many other combinations of the two colours.

Independence, Super Star, Summer Holiday

The next major breakthrough in colours of roses came with the introduction of the variety 'Independence' (1951) where, for the first time the orange pigment, pelargonidin, an anthocyanin, manifested itself through the agency of the floribunda rose 'Baby Chateaux'. The brightest colours of all modern roses is the result of pelargonidin being present simultaneously with the carotenoid yellows. While on the subject of bright colours it is not only the admixture of anthocyanin and carotenoid pigments that creates these exciting colours but the admixture in such a proportion that the light comes through the petals - if there is too high a proportion of carotenoid, which is opaque to light, we get somewhat flat colours lacking in brightness for the reason that the carotenoid in such concentration prevents the transmission of light through the petals. It is my pleasure to acknowledge that this brilliant resulted from the work of Dr. David Leach, the great authority on rhododendrons. It is due to this synthesis of ideas from different plant groups that novelty is further enhanced.



"Independence"



"Super Star"



"Summer Holiday"

Unusual colors

We come finally to roses in unusual colours -- lilac, purple and brown shades. As the famous English hybridiser Le Grice observed, these colours arose from a complete admixture of the rose pigments. The first notable success was Sterling Silver, but there are many others currently available. But as you would have noticed the range of colours available earlier did not include a true blue, because the pigment for blue colours, delphinidum, is not available in the rose family. But we do not have long to wait as the work initiated in Australia and now being carried forward by your country has led to the introduction of the blue pigment into roses. But further efforts are required as the pH of the petals of the rose is not what it should be if the delphinidum is to express itself at full strength.



"Sterling Silver"



"Blue Moon"



"Julia's Rose"



"Honey Dijon"



"Ebb Tide"



"Big Purple"

Fragrance



Rosa damascena Bifera



Rosa moschata nastarana



"Papa Meilland"



"Sutter's Gold"

The other aspect of the rose which enthralls gardeners is fragrance. Here again we have so many types – the damask fragrance, mainly of the red roses, the fruity fragrance of roses in which the damask fragrance is in combination with other genes for fragrance, as also the citrus fragrance. In a different category is the fragrance of the musk rose – *R. moschata*, which carries in the air so that you get the fragrance from quite far away. Intriguingly, some of my new range of roses based on *R. clinophylla* have a lovely different fragrance, which wafts in the air.

Thus far I have dealt with the myriad features of the rose which adds so much to the charm of the rose family.

I now turn to our efforts to start fresh lines of breeding for India and the other warmer parts of the world in the background of the ideas outlined above.

My choice fell on two Indian wild roses:

Rosa clinophylla and *Rosa gigantea*



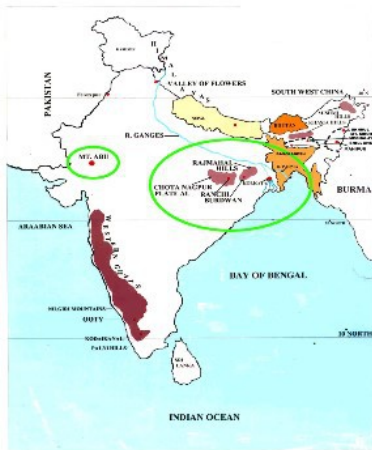
Rosa clinophylla



Clinophylla - flower, jheels

Rosa clinophylla

Rosa clinophylla is a very unique rose species indeed. It is perhaps the only truly tropical species among the 150 + wild roses of the world. Its habitat is also most unusual. Typically the islands of the River Ganges and the edges of lakes, called 'jheels'. Both these locations get submerged in water, as does the rose too, in the rainy season called monsoon. An unusual feature of this species is its fragrance – that of acetone, nail polish remover!!



R. clinophylla sub tropical form at Mt Abu



Mount Abu Rajasthan



Mount-Abu lake margin where we found the species



R. clinophylla- sometimes called *R. lyellii*



Bush of *R. Clinophylla*, Mount Abu form, growing on field boundary, Orissa Village, Mt.Abu. Note the size of the plant.

R. clinophylla Chota Nagpur form-habitat: warm dry climate



Narender Singh of Ranchi would have found this form of *clinophylla* here



Rosa gigantea



Rosa gigantea



Rosa gigantea Hip

Map showing where *R. gigantea* was found



R. gigantea habitat



rohi Lily- *Lilium mackliniae*



R. gigantea climbing tree

Map showing *Rosa gigantea* and habitat

Rosa gigantea on the other hand is the great rose of the subtropics and warm temperate zones. Its habitat is the mountains of North east India at moderate altitudes, around 1500 metres. It has the distinction of being the world's largest growing rose, clambering to heights of more than 50 metres on the forest trees of the habitat, bearing very large single flowers almost 15 cms across. Even the hips are very large, the largest among rose species, like small apples.

Rosa clinophylla

Taking up the work of *R. clinophylla* first, I would like to tell you how we got our first plant of this species. Our friend Mr. Narender Singh was on a hunting trip, sometime in the 1980's and had camped on the edge of a forest stream in the Chota Nagpur Plateau, not too far from where the River Ganges flows, and one morning, as the sun was rising, he saw, to his surprise a rose with white single flowers on the water's edge. Recalling our description of the habitat of this species, and our search for it, he shrewdly guessed this was perhaps the species, so he collected plant material and posted it to us. We were able to root the cuttings, and it was indeed *Rosa clinophylla*.

The way in which this species was originally discovered is equally fascinating. A Superintendent of Post Offices, during British times in India, appropriately named Mr. Rose, was, in the year 1820, travelling by boat, since it was the rainy season, on his usual inspection of post offices in the Bengal region of eastern India. To his surprise he found a rose coming out of the water of the jheel (I showed you pictures of jheels earlier). He collected plant material and rose hips and sent them to the taxonomists in Europe, including the famous Monsieur Crépin of Belgium, who identified it as a new type of rose species, giving it the name *Rosa involucrata*, which later was changed to *Rosa clinophylla*.

As you can see such a rose is perfectly adapted to life in swampy conditions, and that area of Bengal is very tropical indeed. At the time that I was searching for this species in the 1980's, there was only one cultivated plant in existence in entire India – a species which was found abundantly in the past.

Apart from the tropical forms of *R. clinophylla* there is a subtropical form referred to as *Rosa lyellii*. This is typically found at low altitudes on the Himalayan mountains and astonishingly, on a solitary peak, Mt. Abu, rising out of the Thar Desert in Rajasthan State in the extreme west of India. Specimens of this form were collected personally by us after extensive search in Mt Abu. This kind, unlike *R. clinophylla* produces flowers in corymbs.

As you can understand, *Rosa clinophylla* with its unique habitat, is very far removed genetically from the modern rose. Working with this wild rose was very difficult, but ultimately, out of nearly 200 crosses made with the well known Tea rose 'Mrs B.R. Cant', a few seeds were secured, out of which only two germinated. One seedling promptly died, but the other, though weak, survived, to produce small single pink flowers. Back-crossing it with 'Mrs B.R. Cant' produced a more robust plant, which I gave the study name 'Pink Pink', and this plant became the starting point of my new *clinophylla* line of hybrids.



"Pink Pink"



Rosa clinophylla X *Rosa bracteata*

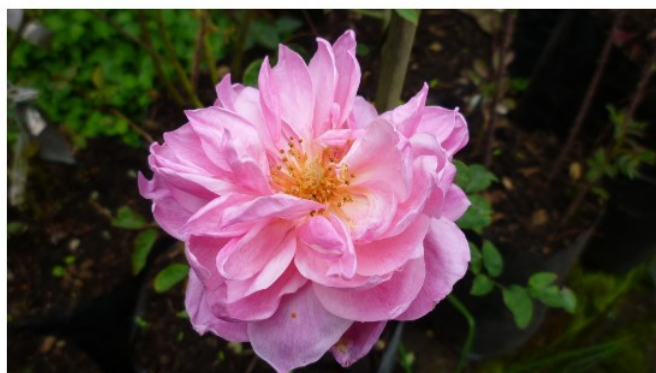
Meanwhile I had noticed that *R. clinophylla* had a close relative, *Rosa bracteata*, which was much better adapted to dry climates. The two species were intercrossed to get hybrids better adapted to normal garden conditions and these were used to start a new breeding line, by crossing with the floribunda rose 'Little Darling', which as the great miniature rose breeder, Ralph Moore, has demonstrated, is good rose parent. My cross produced a repeat flowering small growing plant in salmon pink and this hybrid was used for further work.

Going back to Pink Pink, a series of crosses were made with the Noisette 'Rêve d'Or', which does well in warm climates, as seed parent, and surprise, the cross produced a range of compact growing repeat flowering roses, from which I started another line of hybrids

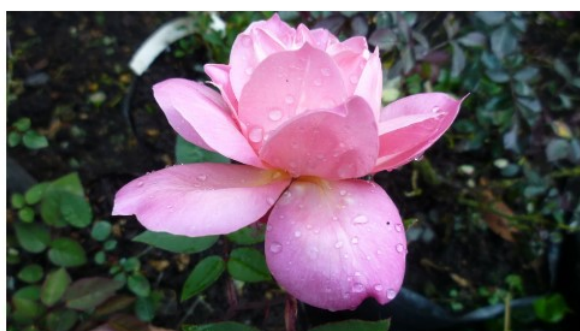
Further work with these resulted in a number of *clinophylla* Teas:



Apricot Patio Tea



Lilac Pink Patio Tea

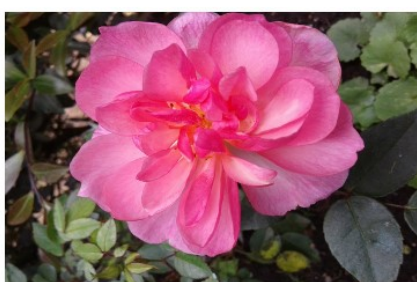
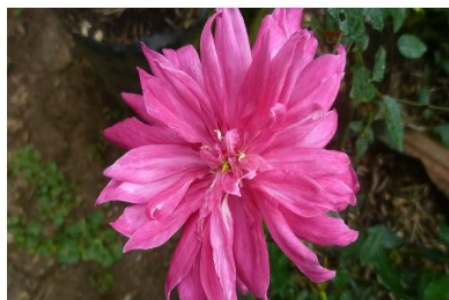


Water Melon Pink Patio Tea



Old Rose Form Patio Tea

Dwarf cluster flowered roses – Patio Teas - Burugul apricot, old rose form watermelon pink



Some Patio Tea seedlings

Some released Clinophylla-Hybrids



“Ganges Mist”



“Silver Dawn”



“Narender “ / “Pat Henry”



“E.K.Janaki Ammal “

In some ways it was easier to progress with the line starting from ‘Little Darling’ into *clinophylla/bracteata* hybrids, since I suspected that they were probably triploid (with 3 sets of chromosomes) and therefore easier to hybridise with modern roses which are tetraploid (4 sets of chromosomes). So the choice of other parents was wider. I had many introducible roses

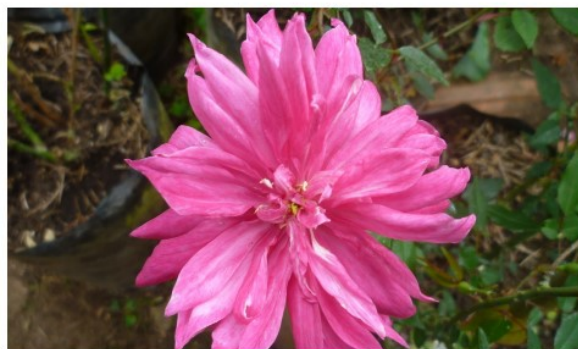
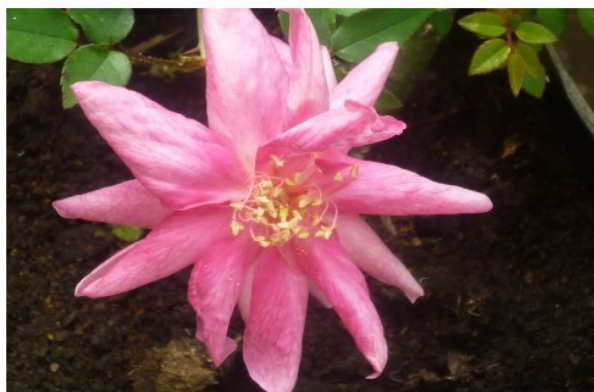
There are many more in the pipeline, including the brilliant coloured ‘VirPillar’

As many experts have predicted the introduction of a new species can lead to roses with different fragrance and an outstanding example is ‘Pat Henry’ which is so strongly perfumed that the fragrance floats in the air in the manner of the musk rose



VirPillar – The future

Rosa clinophylla also led to the creation of new flower forms:

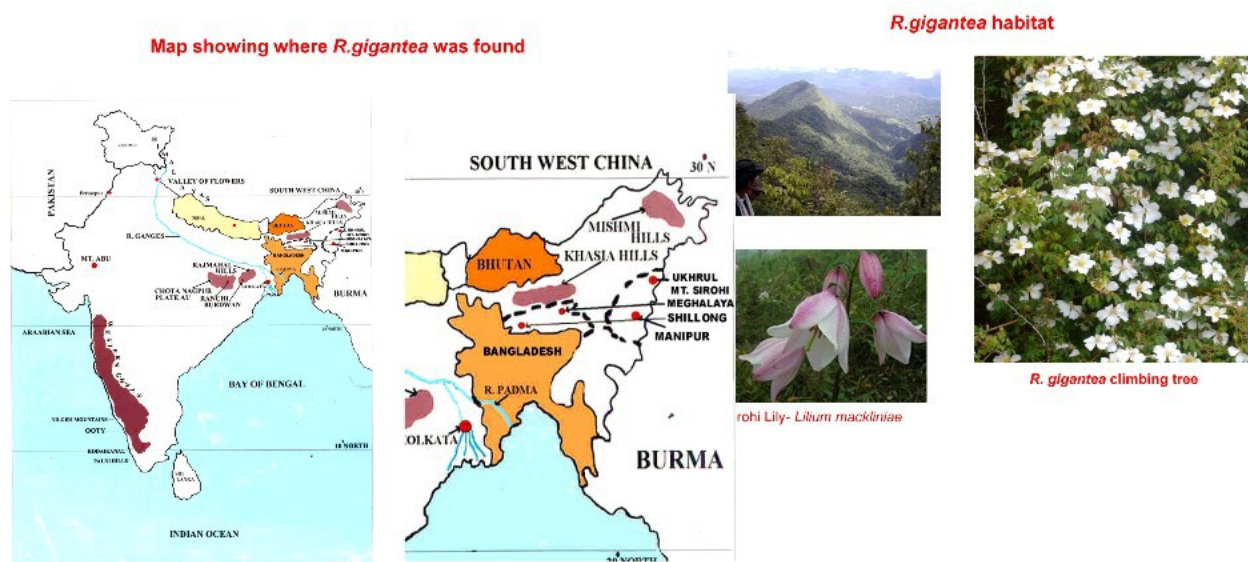


'Ganges Nymph' and Look-alikes



Rosa clinophylla x *Rosa gigantea* and seedlings

One other approach of using *R. clinophylla* was provided by my inter-species hybrid (*R. clinophylla* x *R. gigantea*), which was in many ways a composite of the two species, with foliage much more like *R. clinophylla* and with creamy yellow flowers like *R. gigantea*. From this hybrid a series of new roses has been initiated and I show a few.



Rosa gigantea Habitat

Rosa gigantea

Coming now to work on *R. gigantea* a few words on how we discovered the species, in 1990, on Mt. Sirohi in Manipur State of North east India, quite near the border with Myanmar (Burma). Sir George Watt, who originally discovered the species in 1882 has given some interesting details of how and where he found this rose, which has been quoted in Ellen Willmot's famous treatise, 'The Genus Rosa'. The well known plant explorer Frank Kingdon Ward rediscovered it in the 1930s. We also managed to get confirmation from a botanist who had, in the 1980s, located it in the same area.

Mt. Sirohi rises to a height of around 5000 metres. There is fortunately a jeepable road for few kilometres from the mountain base, but thereafter one has to trek. It however proved easy to find the rose as many specimens could be seen clambering the forest trees, some reaching well over 15 metres and supported by the tree trunks. It was peak winter and though it was the middle of the day the frost still lay on the ground. To our surprise there were some hips on the plants so we collected a few and some cuttings. The seeds germinated quite easily in our mountain home in Kodaikanal which is at an altitude of 2200 metres, in south India – the climate not very different from the lower slopes of Mt. Sirohi. The seedlings grew very fast and first flowers appeared in 1994.

Gigantea Climbers



"Manipur Magic"



"Tangkhul Treasure"



"Sir George Watt"



"Sir Henry Collett"



"Maebara's Dream"



"Evergreen Gene"



"Frank Kingdon Ward"



"Golden Threshold"



"Amber Cloud"



"Mia Grondahl"



"Sakura Sunset"



"Rebecca's Choice"



"Karrie's Rose"

Repeat flowering gigantea-shrubs

As some of you know, *R. gigantea* is one of the ancestor species of the modern rose. So work with this was somewhat easier than with *R. clinophylla*. Two kinds of crosses were made, using it as pollen parent. The first series was with the Noisette climber 'Rêve d'Or', which I have mentioned earlier as being well adapted to warm climates.

Another approach was a leap in the dark. We had noticed that the French H.T., 'Carmosine', which bears large broad-petalled flowers in shades of pink and orange red, was well adapted to our climate, so crosses were made, in spite of the fact that 'Carmosine' is likely a tetraploid (4 sets of chromosomes) and *R. gigantea*, a diploid (2 sets). Surprisingly, we got a few seedlings - this was a great step forward.

To better elucidate what has been discussed about I will show you some photographs displaying the steps in evolving the new hybrid line with *R. gigantea* as well as some photographs of various new varieties which have been created for being grown in our gardens.



"Naga Belle"



"Remembering Nico"



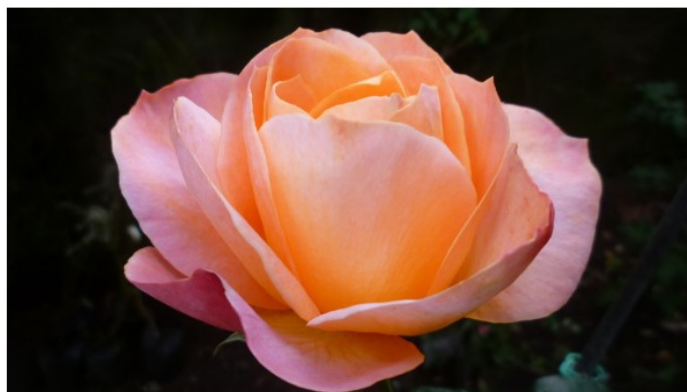
"Sirohi Sunrise"



"Agnimitra"



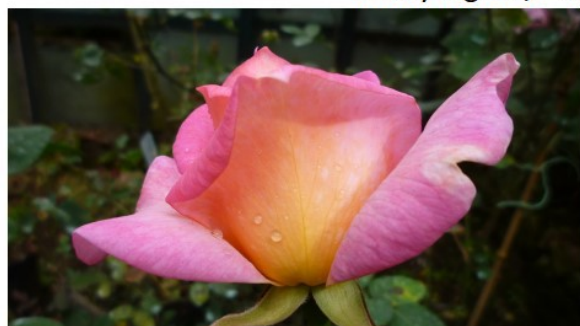
"Allegory of Spring"



"Helga's Quest" / "Vishnupriya"



"Kindly Light" / "Swami Vinayananda"



"Maria Cecilia Freeman" / "Dr. N.C.Sen"



"Dr.Malcolm Manners" / "Rose Manju"



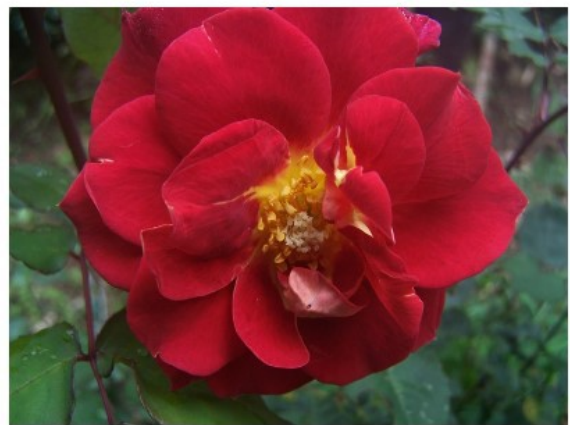
"Adrianna Zarri"



"Churachand "



"Pink Prelude"



"Emina"

Repeat flowering gigantea-shrubs

Tea Roses



"Aussie Sixer"

"Faith Whittlesey"



"Lotus Born" / "Padmasambhava"



"Maura la Cava"



"Remembering Cochet"

Unusual colours

I now come to the third part of my talk, which deals with our efforts to create roses in unusual colours, especially in lilac purple and brown shades as well as the 'hand-painted' strain. Coming to the range of lilac purple colours the strain evolved is basically one started from the purple floribunda 'News' bred by Le Grice. 'News' carries in it the genes of the purple Gallica, 'Tuscany Superb' and is thus a variety of great interest to hybridisers. Apart from 'News' one other significant step forward was the introduction into the line of that stunning rose 'Rhapsody in Blue' which shows shades of blue-purple rather than the more common red-purple.



"Tuscany Superb"



"News"



"Vanamali" (Virus)



"Incense Indigo" (Virus)

As I mentioned earlier, brown shades also arise from the same combination of genes and I will show you the results obtained till now.



New Purple Seedlings



"Rhapsody in Blue"



"Twilight Tryst" (Virus)



"Coffee Country" (Virus)

Hand painted roses

Coming to the 'hand-painted' strain, as many of you may be aware the pioneering hybrid which lies at the origin of the strain is Sam McGredy's 'Picasso', which shows pink, and white colours mixed together, each flower having a different proportion of the two colours - hence the designation 'hand painted'. It is of great interest to note that this characteristic of varying colours is basically derived from the famous Kordes rose 'Frühlingsmorgen' which again owes its colour to *Rosa spinosissima altaica*. In our work one other effort was to replace the pink to red and white combinations with shades of orange and white, which has also been achieved, as you can see from the photographs I show.



"Blushing Yuki"



"Tipu's Flame"



"Bodhisattwa" / "Magic East"



"Priyatama"



"Pat Shanley"



(Violaine X Priyatama)

In conclusion, may I stress again that in this effort to enrich the diversity of the rose flower, we have not only looked at the diversity in flower colour but diversity in foliage, in growth habit, in flower form,, and in fragrance. Hence the title 'Variety is the Spice of Rose “

Some other Rose-Hybrids



'Leschenault de la Tour'
(*R. leschenaultia* hybrid)



'Lady Jane Hooker' – (*R. longicuspis* X *R. gigantea*)



'Lyndy's First Love' (*R. Edward* hybrid)